

What is claimed is:

1. A waveguide comprising:
a waveguide main body made of a material selected from the group consisting of a boron nitride and an aluminum oxide; and
a thin film made of a titanium nitride covering an outer peripheral surface of the waveguide main body.
2. The waveguide according to claim 1, wherein the waveguide main body is made of a boron nitride.
3. A microwave ion source comprising:
a plasma generation chamber into which a gas is introduced; and
a waveguide which includes a waveguide main body made of a material selected from the group consisting of a boron nitride and an aluminum oxide, and a thin film made of a titanium nitride covering an outer peripheral surface of the waveguide main body, and which introduces a microwave into the plasma generation chamber,
wherein the gas introduced into the plasma generation chamber is converted into plasma by microwave discharging to generate ions.